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A1 B2

~~"In addition, each of the controllers 104 may be connected to one or more elements 110. In Figure 1, the one or more elements is a speed sensor. In other embodiments element 110 may include one or more sensors, actuators, displays or other elements adapted to interact with a controller 104."~~

Please replace the paragraph beginning on page 7 of the specification, lines 29 and 30, and continuing onto page 8 of the specification, lines 1-16 with the following:

A2

"Referring to Figure 3, step 302, in the preferred embodiment, one of the controllers, such as a master controller 104, establishes a local time, then in step 304, broadcasts the local time to the other controllers, i.e., the non-master controllers, as the official time. The received official time is used by the non-master controllers 104 as a reference that may be used to synchronize the local time if needed. In one embodiment, step 306, the received official time is compared with the local time of the non-master controller 104. The comparison preferably includes determining the difference between the official time and the local time. If the time difference exceeds a first threshold, e.g., three minutes, then the local time may be synchronized with the official time, step 314. If the time difference is less than the first threshold then it may be determined that no synchronization is necessary, and operation may continue."

Please replace the paragraph beginning on page 8 of the specification, lines 17-30, and continuing onto page 9 of the specification, lines 1-14 with the following:

A3

"If synchronization is determined to be needed, then, in one embodiment, automatic synchronization may be performed by setting the local time equal to the official time. In an alternative embodiment, a determination may be made regarding whether the local time is faster or slower than the official time, step 312. If the local time is slower, then the local time may be set equal to the official

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time and operation continues, step 314. If local time is faster than the official time, the local time may be held, or paused, until the time difference has been reduced or eliminated, step 316. For example, in one embodiment, the time difference between the local time and the official time is determined. If the local time is paused for synchronization, then the local time base signal, generated by the oscillator 112, is used to determine an elapsed time since the local time was held. Once the elapsed time is equal to, or within a threshold of the time difference, the local clock may resume updating the local time. This embodiment has the advantage of not needing additional updates of the official time to synchronize the local time. Alternatively an updated official time may be used to determine when the elapsed time since the local time was paused, is equal to, or within a threshold of the time difference. When the official time is equal to, or within a range of the local time, updates of the local time may continue again.

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Please replace the paragraph on page 9, lines 15-21 with the following:

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In addition, if the comparison of the local time and official time, step 310, indicates the local time is faster than the official time by more than a second threshold, e.g., six minutes, where the second threshold is greater than or equal to the first threshold, then the local time may be set to the official time instead of holding the local time, step 322.

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Please replace the paragraph beginning on page 9 of the specification, lines 22-30, and continuing onto page 10 of the specification, lines 1-6 with the following:

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In one embodiment, if the difference between the official time and the local time, step 318, is greater than a third threshold, e.g., one hour, which is greater than or equal to the first and/or second threshold, then the local time may be manually synchronized, step 320. A service tool (not shown) may be used to manually

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synchronize the local time. That is, if the time difference exceeds the third threshold, a determination may be made that indicates the controller 104 is either new to the system (e.g., a replacement part), or is faulty. In either case, a service tool may be used by an operator or service technician to synchronize the local time of the controller 104 to ensure proper operation from thereon, or if need be, to replace the controller 104.”

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Please replace the paragraph beginning on page 10 of the specification, lines 7-30, continuing onto page 11 of the specification, lines 1-30, and continuing onto page 12 of the specification, lines 1-23, with the following:

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“In one embodiment, a master controller 104 is established when the processing system 102 is initialized. Any controller 104 may be established as the master controller 104. However, in the preferred embodiment, the master controller 104 is able to establish the operating characteristic of the machine, e.g., whether the machine is operating, without assistance from any other controller 104. Referring to Figure 4, the master controller 104 may be determined through an arbitration process. The arbitration process may be initiated by any of the controllers 104, step 402. For example, as a controller 104 is being initialized, the controller 104 may generate an arbitration signal. In one embodiment, the arbitration signal may include a single binary bit that indicates the initiation of arbitration when it is set. In an alternative embodiment, the arbitration signal is a priority signal indicating a characteristic of the controller 104. For example, the controller characteristic may include attributes indicative of the controllers ability to establish whether the machine is operating, or whether the controller is connected to a user interface (e.g., a display, or keypad). In one embodiment, when the arbitration signal does not include any controller characteristics, then the controller 104 that generated the arbitration signal also generates a priority signal, step 404. In one embodiment, once the arbitration signal is received by a controller 104, the controller 104 compares the information contained in

the received priority signal with its own priority information, step 406. If the received priority is higher, then the controller 104 will not generate its own priority signal. The receiving controller 104 will not generate its own priority signal in this instance because the controller 104 recognizes that there is a higher priority controller 104 available to be the master controller 104. Therefore, the controllers 104 compare the received priority information with their priority information, step 406. The controllers 104 recognize the master controller 104 as the controller 104 that generated the highest received priority signal, step 408. A controller 104 recognizes itself as the master controller 104, based upon having the highest priority of any received priority signal. In the event no other priority signals are received, and there are no apparent communication failures, the controller 104 also recognizes itself as the master controller 104. In an alternative embodiment, each controller does generate its priority signal, regardless of the priority signals received up to that point, step 404. Each controller 104 compares the priority signals received with its own priority signal, step 406. If the receiving controllers priority is greater than all the other priority signals received, then the receiving controller 104 establishes itself as the master controller 104, step 408. For example, the controller 104 may compare the characteristics included in the priority signal with its own controller characteristics and, determine which controller 104 is of higher priority. For example, the priority information may simply be whether the controller 104 is able to directly establish the operating characteristic, e.g., machine operation by being directly connected to an engine speed sensor. In this case, then if one controller 104 is unable to directly establish the machine is operating and another controller is able to, then the controller 104 being able to directly establish machine operation will be of higher priority. If one or more of the received priority signals indicates another controller 104 is better suited to be the master controller 104, the controller 104 recognizes that another controller 104 will become the master controller. The controller 104 that determines to become the master controller 104 then begins the responsibilities of the master

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